

**HOSTOS COMMUNITY COLLEGE
DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE**

CMT 150 CONSTRUCTION MANAGEMENT II
CREDIT HOURS: 3.0
EQUATED HOURS: 3.0
CLASS HOURS: 3.0 (3 Class Hour, 0 Lab Hours)
PREREQUISITE: CMT 100 (Construction Management I)

REQUIRED TEXT(S):

1. *Construction Project Administration*, Fisk & Reynolds. 10th edition, Pearson, 2014. (ISBN 13: 978-0137549672)
2. *Construction Scheduling Principles and Practices*, by Jay S. Newitt, 2nd Edition (ISBN 13 978- 0135137826, ISBN 10: 0135137829)

REFERENCE(S):

1. *Construction Project Scheduling and Control* by Saleh Mubarak 3rd Edition; ISBN-13: 978-111884600, ISBN-10: 1118846001
2. *Handbook for Construction Planning and Scheduling* by Andrew Baldwin, David Bordoli; (ISBN: 978-0-470-67032-3)
3. *Construction Planning and Scheduling*, 4th Edition by Jimmie W. Hinze; (ISBN-13: 978- 0132473989, ISBN-10: 0132473984)

DESCRIPTION: Build on the concepts developed in Construction Management I to give a thorough understanding of current practices for planning, documenting, managing and analyzing construction projects. Students learn the importance of understanding the components of a project and the necessity of breaking a project into parts to develop a schedule based on its parameters and environment. Students use industry standard scheduling tools and software (e.g., Microsoft Project or similar program) in preparing a Critical Path Method (CPM) project schedule and study the use of Value Engineering (VE) workshop to reduce construction costs.

GRADING CRITERIA:

Assignments (5 x 5%)	25%
Scheduling Project	15%
Midterm Exam	20%
Final Exam	30%
Attendance/Participation	10%
	<u>100%</u>

Attendance policy: Grade drops after three missed classes (for example, A to a B; B+ to a C+). Three late arrivals are equal to one skipped class. Six or more unexcused absences will result in a failing grade for the course. THIS POLICY WILL BE STRICTLY ENFORCED.

GRADES: A, A⁻, B⁺, B, B⁻, C⁺, C, D, I, F.

Program Criteria

ABET, Inc. is the nationally recognized accrediting body for engineering technology programs. The Department has adopted the most current ABET Program Criteria. Graduates of a construction degree programs typically specify project methods and materials, perform cost estimates and analyses, and manage construction activities. The curriculum provides instruction in the following areas:

- utilization of techniques that are appropriate to administer and evaluate construction contracts, documents, and codes;
- estimation of costs, estimation of quantities, and evaluation of materials for construction projects;
- utilization of measuring methods, hardware, and software that are appropriate for field, laboratory, and office processes related to construction; and
- application of fundamental computational methods and elementary analytical techniques in sub-disciplines related to construction engineering.

Student Learning Outcomes

The Department has adopted the most current ABET student outcomes criteria. Student performance in this course will be assessed based on the following learned capabilities:

- an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the discipline (Criterion 3.A.1.); and
- an ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature (Criterion 3.A.3.).

COURSE OUTLINE

Week	Topic	Assignment
1	Introduction to Construction Processes – processes for planning, monitoring and controlling the project cost and schedule.	
2	Project Accounting & Cost Control	
3	Progress Payments (Chapter 17 - Construction Project Administration)	Assignment 1
4	Change Orders (Chapter 19 - Construction Project Administration)	
5	Risk Allocation & Management Under Different Project Delivery Methods (Chapter 11 - Construction Project Administration)	Assignment 2
6	Management Technology	
7	Midterm Exam	
8	Planning for Construction (Chapter 13 - Construction Project Administration)	
9	Basics of Construction Scheduling - the scheduling process, the need for scheduling, definitions (Chapter 14 - CMP Scheduling for Construction)	Assignment 3
10	Reading and understanding schedules - Work Breakdown Structure (WBS), Milestones, Calendars	Assignment 4
11	Project Activities – Activity Durations, Job Logic, Relationships (FS, SS, FF, SF), Calculating Start and Finish Dates	Assignment 5

Week	Topic	Assignment
12	Reading and Planning Schedules - Understanding Critical Path, Determining the Effects of a Change or Delay, Introduction to Value Engineering (VE), Introduction to Scheduling Software	Scheduling Project
13	Scheduling Software Workshop	
14	Scheduling Software Workshop	
15	Final Exam	

Note that this syllabus is a suggested timeline only. Instructors are responsible for covering all of the material in the syllabus, but they may do so at their own pace.